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☞ See Advertisement on last page.

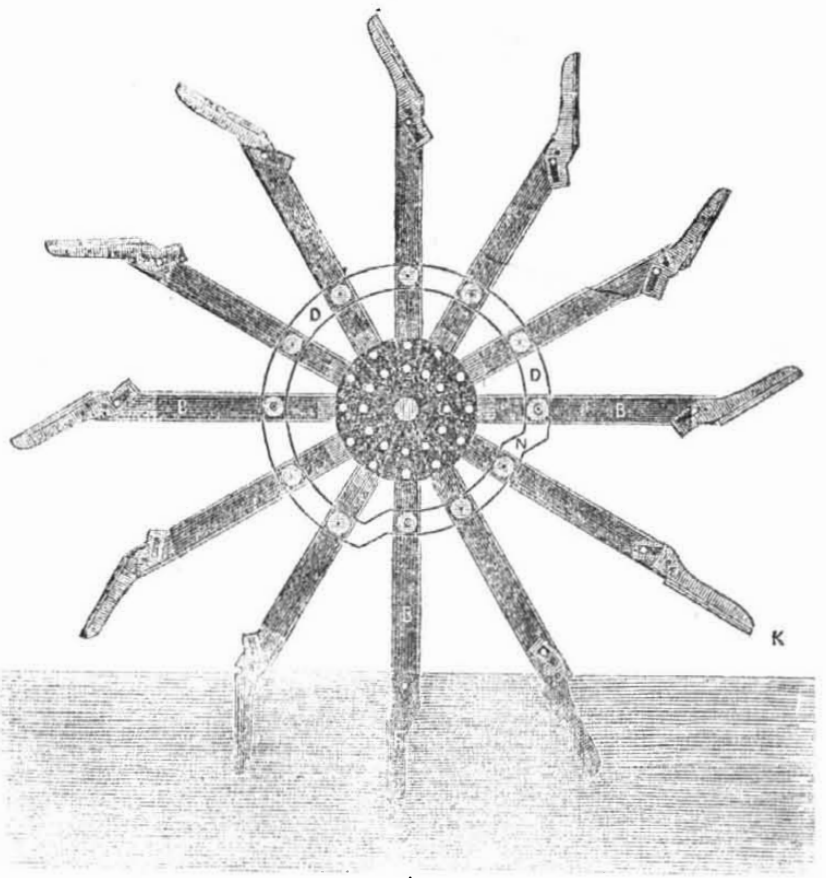
POETRY.

For the Scientific American.

The How and the Where and the Which and the When.

You remember you said, when I saw you last night,
You desired that for you some verses I'd write;
But I was much puzzled when I would begin,
With the *How* and the *Where* and the *Which* and the *When*.
The *how* and the *where* and the *which* and the *what ?*
Faith that's a good subject, I'll write about that,
So I mended my pen just to make it shed ink,
(Then whittled a stick while I waited to think,)
For, surely thought I, the chief trouble of men
Is the *how* and the *where* and the *which* and the *when*.
Well, then, to begin: all men would get wealth
At the risk of their ease, their comfort or health,
But the *how* so perplexes, in spite of their care,
Their riches are fled—and they do not know *where*.
He tries every scheme of both traffic and trade,
And seeks to find *how* the best bargains are made; [fair;"
He buys up his stock not *when* "consuls run
He buys up exchange bills *when* they are not par,
And seeks to find out *when* no specie is sent,
That his bills he may sell and receive his per cent; [office fails,
But the bank stops its payment, the exchange
And he reads the sad news, "in the market no sales." [been,
Oh, if he had known just how this would have
That the banks would have failed—the *which* and the *when*— [his care,)
He'd have laid out his money, (and saved all
To a better advantage, if he had known *where*;
So you see with this man, how perplex'd he has been, [and the *when*.
With *the how* and the *where* and the *which*
We'll speak of a damsel, to make easy writing,
(And surely the title is rather inviting,)
She's just turned of sixteen, and fain would get married, [tarried;
And regrets that an old maid so long she has
She says (when she thinks of a partner for life,)
What person so worthy, that I'd be his wife?
But the *where* plagues her most when she comes twenty-three, [marry me?"
For she cries: "*Where's* the man that will now
So the ladies are troubled as well as the men,
With the *how* and the *where* and the *which* and the *when !*
I'd write about others, but cannot spare time;
(For 'tis hard to make crooked words jingle in rhyme.) [king,
But the doctor, the lawyer, the priest and the
Are all troubled alike with the very same thing,
Whatever they do, or wherever they've been,
With a *how* or a *where* or a *which* or a *when*.
Horrid words! they perplex us far more than our cousins. [dozens;
Old maids, and old bachelors, they make by
Were it not for these words my own plans would have carried, [married.
And long before this time I should have been
If we act, think, or speak how perplexed we have been,
With a *how* or a *where* or a *which* or a *when*.

M'CARTHY'S PADDLE WHEEL.



EXPLANATION.—In this engraving is represented a side view of the wheel, showing merely the ends of the paddles, which are made of planks of ordinary length & breadth The arms of the wheel are secured at the centre by iron sockets and bolts in the ordinary manner, and in the side of each arm from the centre to the outward end, is a groove, and within the grove is a sliding bar B, which has liberty to slide a few inches toward or from the centre of the wheel. To each slide is attached by an axle pivot, a pulley C and each pulley in its progress round the centre of the wheel, is restricted between the sides of a stationary and nearly circular groove or channel D D N, which is attached to the side of the wheel box (not represented.) The paddle boards are not attached directly to the arms of the wheel, but to moveable arm-cleats or wrists F F, and these wrists are connected to the ends of the arms by pivots; and through the centreward ends of the wrists are slots or mortises within which is a pin attached to, and projecting outward from the sliding bar, as plainly shown in the engraving. It will now be seen that the position of the paddle relative to the arm, is governed and occasionally changed by the slight motion of the sliding bar to or from the centre, and that this motion of the sliding bar is produced by the peculiar cam-shape of the groove through which the pulley is made to move. When the pulley passes the oblique section of the groove at N the sliding bar is drawn up toward the centre, and consequently the respective paddle is brought forward as at K; but in passing the next oblique section the paddle falls back so as to leave the water without resistance. By a different modification of the circular groove, and of the slots in the wrists, the position of the paddles may be more perfectly accommodated in their application to the water (especially if the faces of the paddles are made concave) and may be so far thrown back on the wrist joint, after leaving the water, as to avoid most of the ordinary atmospheric resistance. We see nothing to prevent the complete success of this invention, and are inclined to give it the preference in its main principles over all other plans for paddle wheels with which we are acquainted. The inventor of this wheel is Mr. E. J. Mc Carthy, Saugerties, New York.

All's Well that ends Well.

Two friends, who had been separated a great while, meeting by chance, one asked the other how he did? He replied that he was very well, and was married since they last met.—"That is good news indeed." "Nay, not so very good neither, for I married a shrew."—"That is bad, too" "Not so bad, neither, for I had two thousand pounds with her." "That is well again." "Not so well neither for I laid it out in sheep, and they all died of the rot." "That was hard in truth." "Not so hard neither, for I sold the skins for more than the sheep cost me." "Aye, that made you amends." "Not so much amends neither, for I laid out my money in a house, and it was burned." "That was bad, surely." "Not so very bad neither, for it was insured for double the cost." "Indeed, that was very fortunate." "Not so very fortunate as you may imagine, for the principal underwriter immediately ran away." "How very unlucky." "Not so very unlucky, for he took my wife with him; and moreover his partner paid the amount of insurance."

A Kentucky Search Warrant.

A man named Jones had lost his drawing-knife. He suspected his neighbor Smith of stealing it, and applied to the next justice of the peace for a warrant to search his premises. The magistrate, after carefully examining the law and his form book, could find no warrant to search for drawing-knives, but found one for turkeys. After some hesitation, he determined, by a strained construction, to make it cover the case. Said he to Mr. Jones. "I cannot find a warrant for a drawing-knife, but I found one for turkeys. I can give you a warrant to *search for turkeys*, and if, in searching for them, you find your *drawing-knife*, you may bring it."

The outward circumstances of our being have little connection with the true enjoyment of life The proper condition of the heart is the only essential pre-requisite for a life of happiness.

Speak not contemptuously of tailors and dress-makers. None but a rat would run down the *sewers*.

LIST OF PATENTS

Issued from the United States Patent Office, for the week ending 24th April, 1847.

To James Stewart, of Utica, New York, for improvement in fastening Window Blinds. Patented April 24, 1847.

To Lucien E. Hicks, of Middletown, Conn. for improvement in Button machinery, (having assigned his right, title and interest to Junius S. Norton.) Patented April 24, 1847.

To John Blake, of Washington, D. C,. for improvement in Hinges for Blinds, Patented April 24, 1847.

To Robert M. Wade, Summit Point, Virginia, for improvement in Spark Arresters. Patented April 24, 1847.

To William Selpho, of New York, for improvement in machinery for pulling out Hat Tips. Patented April 24, 1847.

To Lester Smith of Southington, Conn., for improvement in "Setting Down" machines for the manufacture of Tin Ware. Patented April 24, 1847.

To Frederick Skiff, of New York, for improvement in the construction of Coffins. Patented April 24, 1847.

To John Evans and James H. Thompson, of Paterson, New Jersey, for improvement in changeable Gearing. Patented April 24, 1847.

To Thomas Loud, of Spring Garden, Penn. for improvement in Piano Forte actions. Patented April 24, 1847.

To Manassah Andrews, of Bridgewater, Mass., for improvement in Bit Stocks. Patented April 24, 1847.

To Lorenzo Potter, of Warren, Ohio, for improvement in Presses for Cotton, Hay, &c. Patented April 24, 1847.

REISSUE.

To Samuel Pierce of Troy, N. Y., for improvement in Cooking Stoves (having assigned his right to Johnson & Cox.) Patented Dec. 6, 1845. Reissued April 24, 1847.

ADDITIONAL IMPROVEMENT.

To James Nasmyth, of England, for improvement in Forging, &c. Iron and other substances Patented June 9, 1842. Reissued Sept 10, 1846. Additional improvement 24th April, 1847.

Correction.

In our list of Patents, in No. 30 is a notice of an invention by Mr. R. F. Stevens for closing doors. By a typographical error it was made to read *cleaning doors*, instead of closing them.

Distance between Boston and New York by the Norwich route.

Boston to Brighton	5	miles.
" Newton Corner	7	"
" West Newton	9	"
" East Needham	13	"
" West Needham	14	"
" Natick	17	"
" Framingham (stop 5 min.)	21	"
" Hopkinton	24	"
" Southborough	28	"
" Westborough	32	"
" Grafton	38	"
" Worcester (stop 5 min.)	44	"
" Oxford	55	"
" Webster	60	"
" Fisherville	64	"
" Pomfret	70	"
" Daysville	75	"
" Danielsonville (stop 5 m.)	78	"
" Central Village	84	"
" Plainfield	87	"
" Jewett City	93	"
" Norwich (stop 2 min.)	103	"
" Allyn's Point (take stm'r)	110	"
" New London (stop 8 min.)	118	"
" New York	234	"

In London recently, a lady genteelly dressed in mourning, stole an infant child under false pretences from a servant girl who had it in charge in the streets.

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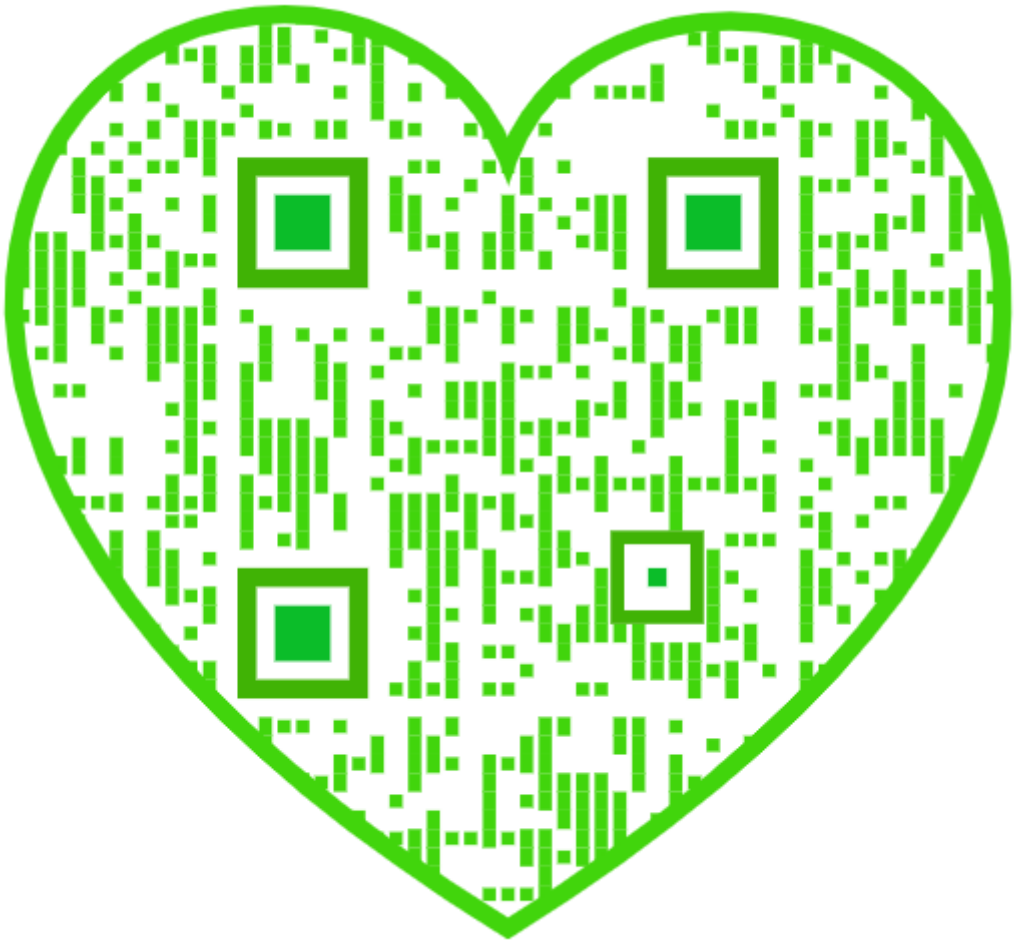

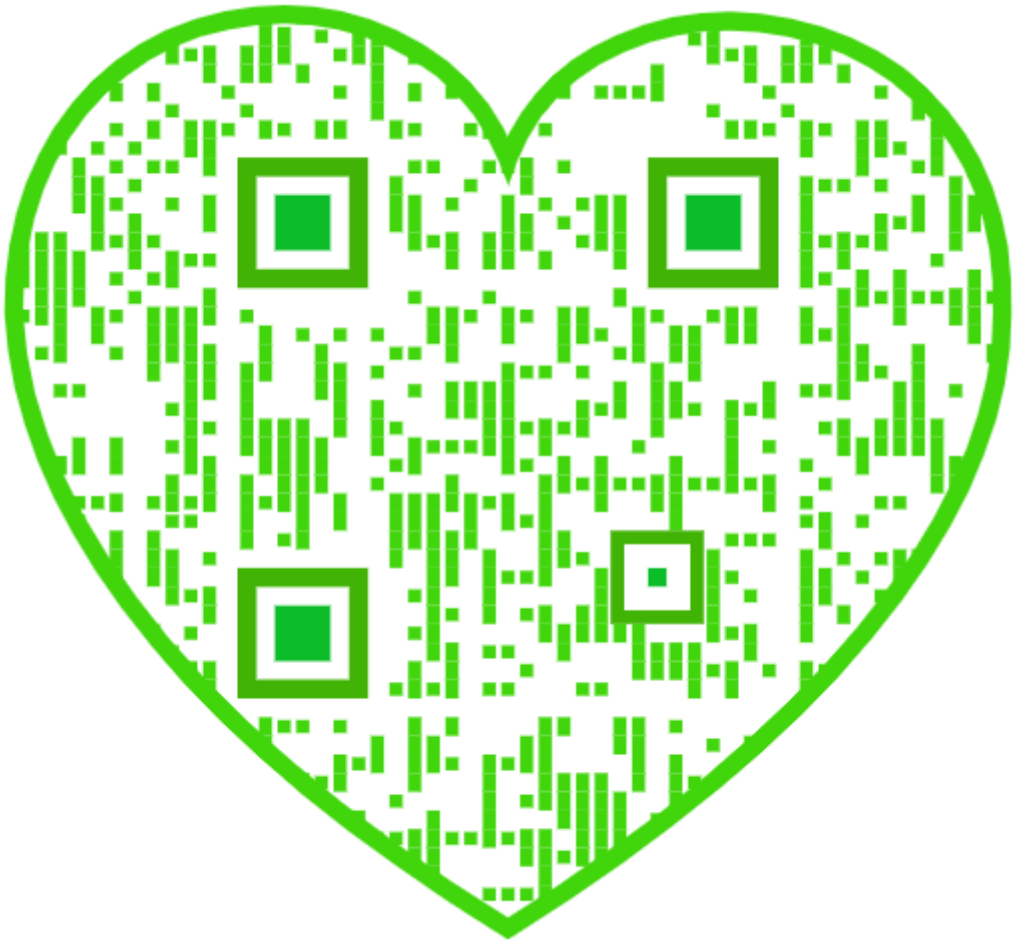

Extravagant Language.

There is an untasteful practice which is a crying sin among young ladies—I mean the use of exaggerated forms of speech—saying splendid for pretty, magnificent for handsome, horrid for very, horrible for unpleasant, immense for large, thousands or myriads for any number more than two. Were I to write down for one day, the conversation of some young ladies of my acquaintance, and then to interpret it literally, it would imply that, within the compass of twelve or fourteen hours, they had met with more marvellous adventures and hair breadth escapes, had passed through more distressing experiences, had seen more imposing spectacles, had endured more fright, and enjoyed more rapture, than would suffice for half a dozen common lives. This habit is attended with many inconveniences. It deprives you of the intelligible use of strong expressions when you need them. If you use them all the time, nobody understands or believes you when you use them in earnest. You are in the same predicament with the boy who cried "wolf" so often when there was no wolf, that nobody would go to his relief when the wolf came. This habit has also a very bad moral bearing. Our words have a reflex influence upon our characters. Exaggerated speech makes one careless of the truth. The habit of using words without regard to their rightful meaning often leads one to distort facts, to mis-report conversations, and to magnify statements, in matters in which the literal truth is important to be told. You can never trust the testimony of one who in common conversation is indifferent to the import, and regardless of the power of words. I am acquainted with persons, whose representations of facts always need translation and correction, and who have utterly lost their reputation for veracity, solely through this habit of overstrained and extravagant speech. They do not mean to lie: but they have a dialect of their own, in which words bear an entirely different sense from that given them in the daily intercourse of discreet and sober people.—*Address of A. P. Peabody.*

Connecting the Oceans.

It is currently reported that a government vessel has been sent to Campeachy with competent engineers authorized to make a survey of the isthmus, preparatory to opening a ship canal across to the Pacific. They may indeed survey a route for a ship railroad; but the idea of uniting the oceans by a canal is decidedly behind the age. Sixty-four-wheeled cars with engines to match, will convey merchantmen or even armed ships across the isthmus, in less time than would be required to pass the first mile by canal.

Deep Fog.

An article is going the rounds of the press, recommending the addition of *varnish*—whether copal or turpentine varnish is not specified,—as an improvement to whitewash! We are inclined to enquire what light or intelligence can be expected to be derived from papers, whose conductors are ignorant enough to publish such sheer nonsense.

Paying Damages.

In Kershaw district, S. C., John Harrison has recovered $650 from Jefferson Berkeley for selling to Harrison's slave, Bob, five quarts of whiskey, upon which said Bob got drunk, and died from the joint effects of intoxication and exposure. If all liquor dealers were required to repair the damages occasioned by the traffic, they would be glad to get out of the trade.

The Celebration.

It is decided to burn powder, and illuminate the public buildings in this city on Friday evening next, in honor of the recent victories in Mexico. It is expected that 20,000 candles and other lights will be used, much to the benefit of tallow chandlers. Baltimore was illuminated on Wednesday.

Thayer's Truss Bridge.

This invention appears to be gaining high favor with the public. We are informed that another is in progress of construction, to cross the Delaware at Damascus Pa., a few miles above the one heretofore noticed, and which from its extra length and strength, is among the wonders of the age. The Damascus Bridge is to consist of two spans of two hundred and fifty feet *each*. The river is rapid at this place, and no bridge hitherto constructed has been able to withstand the force of the current and floating ice.

Immense Business.

The inspections of flour and grain in Baltimore, for the last quarter, was greater than ever before in the same period of time, being no less than 311,703 bbls. and 7,510 half bbls. wheat flour, 1,153 bbls. rye flour; and 139 hhds. and 42,192 bbls. corn meal. The previous largest inspection was for the quarter ending December 31, 1846, exhibiting, for the last 6 months, an inspection of *over five hundred and sixty-two thousand barrels of wheat flour, and over fifty-eight thousand barrels corn meal.*

African Colonization.

Accounts from the Coast of Africa represent the English and French governments to have learned wisdom from the success of the American colonies. Both nations are said to have in contemplation the establishment of similar colonies along the slave coast, as the *cheapest* and *speediest* way of ending the slave trade, while at the same time conferring the blessings of nationality and self-government upon the colored race.

Wind Ship.

Mr. Thomas, the gentleman who has been engaged for some time past in building a wagon to go by wind and sail, as a ship, has, we understand, nearly completed his undertaking, and will make a trip some hundred or two miles out, in a short time. He has *dubbed* it the "*Wind Ship*"—it carries 100 square yards of sail.

Southern Cotton Factories.

From an article in the Tuscaloosa Monitor, we learn that there are eighteen Cotton Factories in Georgia. It is thought that there is a capital of a million and a half invested in these factories, and that they pay a dividend of from 13 to 24 per cent. on this capital.

Cause and Effect.

A Boston paper notices the appearance, on Monday morning, of eleven files of men and two of women hand cuffed together and accompanied by officers, on their way to the Police Court in consequence of the precious liberty tenaciously retained by a few, of retailing rum stuff.

Columbian Magazine.

We have received the May number, and find it furnished and embellished in the usual splendid style of that popular work, and to contain three first rate engravings—two of them fine steel plate,—besides two pages of music with poetry by Miss E. A White. This work is published monthly by Ormsby & Hacket, 116 Fulton street.

A Gallant Irishman.

An Irish gentleman, remarkable for his devotion to the fair sex, once remarked, "never be critical on the ladies. Take it for granted that they are all handsome and good. A true gentleman will never look on the faults of a pretty woman *without shutting his eyes!*"

Commerce of Mexico.

Every commercial port of any note in Mexico is now in the hands of the Americans, and with a reduced tariff, and by throwing open the ports to the world without serious restrictions, immense business must be done.

Economy.

It has been remarked that as drop letters are only two cents postage whereas drop newspapers are three cents, it is better for those who would send newspapers to others in the city, to enclose them in letters.

Horses and Dogs.

It is stated in a Cork paper, that seventeen horses were lately killed in that county, to feed a pack of hounds. Both horses and dogs were likely to starve, and as the horses would not eat the dogs, it was decided to let the dogs eat the horses.

Gen. Taylor and the Presidency.

The General insists upon it, that he does not want to be President, nor a candidate; but the people, many of them, and a considerable portion of the press, say he must and shall; and even Mr. J. C. Calhoun urges his friends to unite on Gen. Taylor. It appears quite probable that the General will be constrained to abandon his country and seek refuge in foreign lands, from such a deprecable alternative.

Immense flight of Pigeons.

The Cayuga Tocsin says that during the whole forenoon of Sunday last the horizon at that place, was much of the time, literally darkened by a succession of immense flocks of pigeons, winging their way from north to south. Across the whole horizon as far as the eye could reach, dense flocks extended from east to west, which could not have been less than six or seven miles.

Expensive Publication.

The expenses of compiling, editing and publishing the "Encyclopedia Brittanica," in the seventeen quarto volumes, amounted to $600,000. The publishers, Constable & Co., are in a way to realize profitable returns from their enterprise. They have already received nearly $550,000 from its sale. Authors and contributors to the work have been paid more than $100,000.

Another Jehu Case.

While the engineer and firemen of the passenger train were at breakfast, at Newburyport one morning last week, a man, desirous to try his hand at locomotive driving, jumped on to the engine and put it in motion, but found himself unable to stop it. The consequence was a collision with a gravel train not far from the depot, occasioning damage to the amount of $2,000.

Mr. Austin's Theory.

Extra press of business, requires us to defer till next week the examination of the long drawn perpetual motion theory. We have been requested to correct certain typographical or other errors therein; but we prefer to first endeavor to ascertain whether there is *any*thing correct about it.

Scolding.

We never knew a scolding person that was able to govern a family. What makes people scold? Because they cannot govern themselves. How, then, can they govern others? Those who govern well, are generally calm. They are prompt and resolute, but steady and mild.

Served Him Right.

Two men having recently been arrested at Baltimore for passing counterfeit half dollars, one of them turned State's evidence against his confederate; but in the course of his evidence he was detected in gross perjury, & was forthwith sentenced to ten years in the penitentiary.

Paper Glass.

It is announced in the foreign journals, that Schonbein, the inventor of gun cotton, has discovered a method of making paper transparent, and impermeable to water. It is to be used in making bottles, window panes, and vases; for i has all the qualities of glass except its brittleness.

A Young Howard.

J. Davenport Fisher, a boy but 12 years of age, at Boston, is said to have collected by his own efforts in one school the sum of $60 for the aid of the starving population of Ireland.

Increase of Property in Boston.

Whole valuation of property in the city in 1844, $118,450,309; 1845, $135,948,700; 1846, $150,000,000. Increase in 1845, 15 per cent, and in 1846, 10 1-2 per cent.

Egg Trade.

France is driving a splendid trade by the exportation of eggs to England, which on an average amount to $2,000,000 a year, while the French themselves consume 90,300,000.

Route of the Great Western Rail Road.

From Philadelphia to Pittsburgh, 260 miles: —Columbus, 246:—Terre Haute, 290:—St Louis, 164. Whole distance 960 miles. This distance may eventually be travelled in less than 36 hours, including stops.

The former wife of Rev. J. N. Maffit, died recently at Galveston, Texas. She is spoken of as a lady of excellent character.

Mr. D. Sweeney, the inventor of sixpenny plates, has removed from his old stand in Ann street to No. 66 Chatham street, where he will "hurry up those beef stakes and hot cakes," to a few hundred daily, if they call in season to get seats at his table.

The St. Louis Republican of the 7th says:—"We noticed on the steamer Convoy yesterday, eight hundred boxes of rifle ball cartridges, each containing fifteen hundred, which were made at the St. Louis Arsenal, and shipped for N. Orleans.

POSTMASTERS, whose salaries amount to less than $200 a year, have *the franking privilege restored to them*, as formerly. They can now remit subscription money to printers free of charge, as well as the names of new subscribers.

Mr. Walter Colton, an American, has estab a newspaper in California; but being constrained to use the Spanish type, in which are no W's, he substitutes two V's instead

An exchange speaks of Capt. Arnold's command of two companies of *dragoons* and four companies of *Kentuckians!* It should have added five companies of *volunteers.*

The Nashua, N. H., Telegraph says that the census of Nashua has been taken, and the number of males is 2024; number of females, 2802. Gain in one year, 220.

Gen. Taylor in a recent letter on the subject of the battle of Buena Vista, says, "I had not a single company of regular infantry, the whole was taken from me."

Our army, as a matter of precaution, have burned all the towns and villages between Monterey and Camargo. Of course the Mexicans complain of the barbarous Americans.

Rev. G. J. Adams, lately cowhided a Boston editor, and announced his intention of playing at the Providence Theatre on Saturday, and of preaching the gospel (?) at Boston on Sunday.

The Emperor of Austria has forbidden any person or company to construct lines of magnetic telegraph in his dominion without his special permission.

The New York Christain Advocate, has been presented by a Virginia Grand Jury, as an incendiary paper. Perhaps the paper will reform, as a matter of expediency.

Much of the recent news from Mexico, is obtained through the medium of the "American Eagle," a new American paper established at Vera Cruz.

The Mobile papers are boasting most provokingly of ice cream and strawberry parties, which are in vogue at that place.

The sum of fifty dollars was contributed by the negroes of a planter in Lowndes county, for the relief of the distressed in Ireland. This is the most generous contribution we have yet noticed.

The Boston Bee says that Ole Bull has written to a friend in New York, that he will return to this country soon, with his family, and settle here for life.

The greatest artificial cold is produced from a mixture of diluted sulphuric acid and snow. Its temperature has been known to be a hundred and twenty-three degrees below the freezing point.

A CHICAGO paper learns from persons who have passed through the wheat-growing region of Illinois and Indiana, that the young wheat is almost entirely winter killed.

Great mortality has taken place among horses on the American Bottom west of Missouri, caused by a fly that stings them to death in a few hours.

A bomb shell weighing 186 pounds, which was fired from the Castle of San Juan de Ulloa during the bombardment, has been placed in the rotunda of the Philadelphia Exchange.

Several instances have been reported within the month of April, from towns in this State, in which the thermometer indicated from 7 to 10 degrees *below* zero.

One of the watchmen of the Post Office Department at Washington, was arrested on Saturday for robbing the dead letter office.

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TRUST TO THE END.

When the sunshine of gladness
Has passed from the soul,
And the dark clouds of sadness
Unceasingly roll—
When the past appears only
A dim vale of tears,
And the future a lonely
And wide waste of years;
The star of hope streaming
Through tempest and night,
Is kindly left beaming
Our pathway to light—
Inspiring and cheering
The lone and oppressed,
To the weary appearing
A haven of rest—
Whose calm light reposes
'Mid sadness and gloom,
O'er the lilies and roses,
That bend o'er the tomb—
Like a seraph sweet-smiling,
'Midst blight and decay,
Through the cold world beguiling
Our wearisome way—
In ill all-sustaining
To mortals below,
And shining and reigning
Wherever we go,
Forsaking us never,
Companion and friend—
Then hope on, hope ever,
And trust to the end.

An Original Character.

Near a pretty village called Seguin, beyond Gonzales, Mexico, resides an eccentric person enjoying a Colonel's commission, and thus noticed by an American letter writer. "He has a strange habit of using the longest words, and invariably mis-applying them; for instance, (he wished to sell us some lots,) "Buy here, gentlemen, if you wish to make fortunes; here's the location for a magnanimous city; we're at the foot of navigation. Next year I'll put up a lawyer's fixins, a pothecary's doins, and a blacksmith's institution, and afterwards a regular cimetary, where all the folks from the circum-jasper counties will send in their boys and girls of both sexes to be McAdamized into a college edication. Then I'll instruct a meetin house, and the stores and taverns will spring up in course. I can't do this till next year, cos I hav'nt got hard cash enough yet,and I'll have nothing to do with the darned blank bills. Do you see that well? I'll put a pump handle into it, and fix an anecdote to fetch the water through all the meandering and turpentine walks in my sass-garding, and the effects of the arrogation will be such, that the very air will be polluted with the oduriferous execrations protruding from the flowers. I'll put up a diarrhœa in the middle of 'em, for my women folk to store the milk and butter, &c.; and then run a condition through my house and provision it off, but I'll run up a real edifice next year, and clap a chronology on the top, so that the ladies and gentlemen may look at the stars and milky way through a horoscope that I'll export from Galveston. I can't do all this at once, as my women folks are growing up and getting more and more costive and expensive every year."

Doctor Jocko.

An Englishman, who had long been suffering with an imposthume, was declared by his physician to be at the point of death. Having bade farewell to his wife and children, he expressed a wish to take leave of his servants.—One after another they came in, kissed his hand, listened tearfully to his advice, and blessing, and bowing low, left the room. Last of all came a favorite monkey. He too bowed respectfully, placed one paw in his master's hand, and with the other covered his eyes. At this ludicrous sight, the dying man burst into such a convulsion of laughter, that the imposthume broke, and he recovered.

Fair Comparison.

The world is a looking glass, and gives back to every man the reflection of his own face.—Frown at it, and it will in turn look sourly upon you; laugh at and with it, and it is a jolly kind companion; and so let all young persons take their choice.

The Southerner, steamship, brought a supply of green peas, only a few days picked,from Charleston.

THE WEATHER, &c.

WEDNESDAY, APRIL 21st.

	Hours, A. M.									Hours, P. M.									
	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10
Therm.	46	46	46	48	52	55	58	63	67½	72½	71½	72	73	73	71½	68½	68½	66	—
Wires,	52	52	52	53½	57	60	63	68	72	77½	76	77	77½	77½	76½	74	73	71	—
THURSDAY, 22d.																			
Therm.	—	60	59	61	65	67	70½	76	78	79	79½	80	78½	77½	75	71	68	66½	64½
Wires,	—	64	63	65	70	71	74½	80	82	83	83	84	83	82	79½	76	71½	70½	68
FRIDAY, 23d																			
Therm.	—	62	61	63	66	65½	57	53	50	49½	47	46½	47	46	45	43	43	43	43
Wires,	—	65	64	66	68	68	59	55	53	52½	50	50½	52	51	50½	49	49	50	50½
SATURDAY, 24th.																			
Therm.	—	41	40½	40½	42	42	44½	45	46	48	49	49½	50	49	48	46½	43	41	40
Wires,	—	50	49½	49½	51	51	53	53	53½	54½	55	55	55	55	54	53	49	49	48
[*Equilibrium*																			
SUNDAY, 25th.																			
Therm	—	35	36	38	44½	47	50	52	53	54	52	51	—	45	43½	42	—	41	—
Wires,	—	48	48	50	56½	59	60	61	61½	62	60	69	—	55	51½	50	—	50	—
[*Equilibrium ended.*																			
MONDAY, 26th.																			
Therm.	—	39	40	42½	48	54	57	60½	64	65	67½	68	68	65½	64	62	62	61	60
Wires,	—	49	50	52	58	64	66	68½	72	72½	74½	75½	76	73½	72	70	69	69	68
TUESDAY, 27th.																			
Therm.	53	53	53	57	62	65	67	70	72	70	72	72	72	66	60½	58	54	52½	48
Wires,	59	59	59	64	68	71½	73	76	78	76	78	79	77½	72½	66½	64	60	57½	56½

REMARKS.

April 20. Thunder and lightning in the evening. April 21. A warm day. April 22. A hot day at 30 minutes past 2 P. M., thermometer 80 1-2, wires 84 Clear. Showers of rain at Albany in the afternoon. Heavy rain at night. Some snow, thunder and lightning—thunder and lightning at Newburyport and Chelsea, Mass., at 8 P. M. Sultry day at Philadelphia, at 11 P. M. wires 66, thermometer 62. 23d rain at 10 and 11 A. M. At 8 A. M. the wires and thermometer approximate within 2 degrees. A snow storm active at Boston at 2 P. M.; at the same hour the heat had been at 83 the day previous. On the morning of April 24 my meteoric, magnetic and electric wires were in an extraordinary state, the branch which points to the southwestern horizon changed its pointing from its usual direction and pointed directly to the zenith, and the horizontal wires which connect the native load stone balance with the electric wires expanded notwithstanding the expansion has been preceded by an immediate fall of temperature of 40 1-2 degrees. The wires were equilibriated—some disturbance at a distance has produced this state noted. April 25. A white frost. The thermometer at Albany April 22, 88°—at New Lebanon, Columbia County N. Y. April 1—11 degrees below zero, difference in 22 days 99 degrees! at Albany April 1, zero, difference 888 April 26, clouded atmosphere to the North at night.—27th, wind high all day, reducing the temperature down to 38, on Wednesday morning at 5 o'clock. E MERIAM.

Brooklyn Heights, April 27, 1847.

Extraordinary state of the Atmosphere.

I have recently received a letter from the Hon. Josiah Butler, of South Deerfield, New Hampshire, dated April 15, 1847, relative to the continuation of Earthquakes in that part of New Hampshire. Mr. Butler remarks as follows: "From my own observations since my correspondence with you, I find that every shake has been preceded or succeeded by a storm—generally a storm has followed in proportion in severity to the violence of the shock. Since I last wrote to you we have had three or four shocks, two in February, one on the 2d, and the other on the 21st of that month."

On reading this letter I turned to my files of the Brooklyn Evening Star (which I preserve with care) to ascertain if my published records of the state of the Magnetic, Electric and Meteoric wires had accurately indicated these two convulsions.

The Brooklyn Evening Star of Feb. 3 contains my published records as follows:

TUESDAY MORNING, Feb. 2, 6 o'clock.

"*The Weather.*—The wires and thermometer have been both in *Equilibrium* the last eleven hours, the wires at 18 and the thermometer at 30 1-2.

WEDNESDAY MORNING, Feb. 3.

Both the wires and thermometer were in Equilibrium near the whole of yesterday, and from 10 last night to 7 this morning the thermometer has risen 6 degrees, and the wires 3 degrees in the night, followed by a free rain.—A three fold disturbance at a distance is indicated." E. M.

The Brooklyn Evening Star contains my published notice as follows:

THURSDAY MORNING, Feb. 4, 6 o'clock.

"*The Weather.*—From 8 A. M. yesterday to 5 P. M, the wires were from 54 to 55, and the thermometer from 44 to 50. At 6 P. M. both fell suddenly 3 deg.—an earthquake depression.

The next hour the thermometer fell 1 deg and a half, and the wires half a deg. At 9, two hours after, the thermometer fell to 34 degs., and the wires to 46. At half past 8 a storm of thunder and lightning rapidly passed over. At midnight the thermometer was down to 30, and the wires to 44 1-2, and this morning at 6 the thermometer is at 26 and the wires at 45.

A gale of wind blew most of yesterday and last night, and this morning presents the appearance of a snow storm operating at a distance. The wires and thermometer were both in Equilibrium nearly the whole of Tuesday."

E. M.

(*To be continued.*)

ANDOVER, April 12, 1847.

MR. EDITOR:—I see a notice in your paper of the 10th, headed "Cylindrical Cloth." This invention did not originate with Mr. Henry Pease, of which you can satisfy yourself by examining any lampwick for circular burning—or any piece of carpeting where two and three plies of each are wove of various colors and combined not only at the selvages, but throughout the piece in various forms and configurations according to the caprice or taste of the desinger.

Although I am a farmer, I take some interest in mechanical matters—and visited the Ballard Vale Works, to see a loom in operation—the invention of Mr. L. Holmes of this town (noticed as patented in No. 28.) I saw this loom make cylindrical double cloth twilled, a sample of which I enclose with the other specimens, wove in my presence, this loom can weave twenty plies of cloth either combined, separate, cylindrical, or forming one width of twenty yards, the loom being one yard wide. Mr. Holmes don't claim any merit for this property of his loom—which can be altered to work any figure or number of plies of cloth by merely turning a few small screws—not occupying more than five minutes in doing so The sample of double cloth enclosed is somewhat curtailed of its proportions since I had it, but there is sufficient to show that some things can be done as well as others.

So far from this "weaving of bagging" being a new invention, there is a tradition still extant in Ireland of a disciple of Saint Patrick, named Gilroy, (a celebrated weaver in those days) having not only wove a shirt without a seam for the Saint himself, but one actually on to the back of a wild unconverted Irishman, with ruffles, buttons, and button holes complete. This so called miracle is said to have had more to do in converting the heathen than the more popular story of the shamrock or trefoil or the banishment of the toads, frogs, &c.

I am Mr. Editor, an enemy to all quacks, in mechanics as well as physic. H. H.

NOTE.—The samples above mentioned, consisting of fancy gambroons and other fabrics, are splendid beyond any thing we had seen of American manufacture.—ED.

The great cross on the altar of St. Patrick's church, Quebec, was stolen lately; but the thief, finding that it was only plated and not solid silver, brought back the pieces and left them at the door.

LATEST FROM MEXICO.

It has been generally understood that the Mexicans would make a stand and obstinate resistance at a place called the National Bridge, twenty-five miles beyond Vera Cruz,—a position supposed to be the strongest in the world, and being the only route from Vera Cruz to the city of Mexico. But Gen. La Vega who had charge of this position, not being properly supplied with provisions, &c., could not keep his troops together, and his army broke up in confusion and retreated towards the city of Mexico. Immediately after the surrender of Vera Cruz, part of the American army pushed forward toward Mexico, and have probably reached the immediate vicinity ere this. The towns of Alvarado and of Jalapa had each sent embassies to Gen. Scott, requesting him to take possession of these towns and protect the inhabitants. The Americans were somewhat surprised at the strength of Vera Cruz and the Castle of San Juan, the latter of which had 100 guns mounted, many of which were 62 pounders. In the city works were 106 guns in position beside 5000 stand of arms and an abundance of ammunition. Provisions were not so plenty, and many of the inhabitants were suffering, on which account Gen. Scott immediately ordered the distribution of 19,000 rations among them. The Mexicans were much surprised to see Gen. Scott and suite attend church at the cathedral on Sunday, and presented him with a lighted taper in token of their high regard.

From the City of Mexico we learn that Santa Anna, after his brush with Gen. Taylor, did not stop till he reached the palaces of the city, where he found the people fighting one another in the streets, with artillery and other arms. He succeeded in restoring order, and was immediately proclaimed President, and persists in declaring he will never give up nor make peace. The Mexicans are bent on their own destruction as a nation, and as our armies at Santa Fe and California have been successful, there appears a tolerable certainty that the war will soon come to a close for want of anything to fight against on our part, or to fight for on the other.

Genius and daring of a Highwayman.

A French robber, named Dore, once had the audacity, alone and unassisted, save by his own ingenuity, to stop a deligence full of passengers. He constructed several excellent men of straw, of the size of life, and quite as natural—at least in the dark. These he invested in the needful toggery—neither fresh nor fashionable we presume, but serving the purpose. Finally, he fastened sticks, intended to represent muskets, to the shoulders of the figures, which he posted in a row against trees bordering on the high road. Up came the Diligence. "Halt!" shouted Dore, in the voice of a Senator; "Halt! or my men fire!" The frightened driver pulled up short, the conductor and passengers, seeing a row of figures with levelled firearms, thought they had fallen into the hands of a whole army of banditti,and begged for mercy. Dore came forward in the character of a generous protector—sternly ordered his men to abstain from violence and remain where they were, and collected from the trembling and intimidated passengers their purses, watches, and jewels. "I forbid your fire," he shouted to his quaker gang, whilst pocketing the rich tribute; "they make no resistance; I will have no useless blood shed." The conductor, delighted to save a large sum of money secreted in a chest, quietly submitted; the passengers were too happy to get off with whole skins, and the women thanked their spoiler, and called him a humane man and almost kissed him out of gratitude for his sparing their lives. The plunder collected,the driver got permission to continue his journey, which he did at full speed, lest the banditti should change their minds and forget their forbearance. Dore made his escape unmolested, leaving his straw regiment on picket by the roadside, a scarecrow, till daybreak, to the passing traveller.

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NEW INVENTIONS.

Hydraulic Engine.

Mr. Elijah Bishop of Jamestown N. Y., has invented, and furnished us with description and drawings of an engine on a novel plan, but on true scientific principles, and calculated to supply the place of water wheels, for propelling machinery &c. We shall not attempt a full description without an engraving, but merely say that it consists in part, of two large vertical cylinders with pistons and rods extending up to two cranks on the two ends of a horizontal shaft above. The bottoms of the cylinders are furnished with large disk valves of peculiar construction, and so arranged that while water is admitted into one of the cylinders from a water-pipe or pentstock at the bottom, the water is discharged from the other, and vise versa alternately. Thus while the force of the water is applied to raising one piston, the other is forced down by atmospheric pressure equal to the weight of the water contained in the cylinder, and the valves are reversed by a simple connection of machinery, on the approach of each piston to the bottom. No other packing is required, than that of an ordinary pump piston, and consequently there will be but little friction. The power is communicated from a drum or geer wheel mounted centrally upon the crank shaft. It may succeed well.

Dupuy & Steven's Corn Sheller.

We sometime since alluded to an invention which was in progress, and which promises to eclipse all other machines for shelling corn. We have recently had the pleasure of witnessing the operation of one of these machines,—the first one completed,—and find it unquestionably superior to anything of the kind hitherto introduced, as it not only shells clean and rapid, but winnows the shelled corn, and deposites it in a tub or bag, while the cobs are thrown off in a different direction. It will shell in this manner, with one man at the crank, 160 bushels of clean corn per day, though it is a compact, light and portable machine, and can be afforded at a moderate price. It is the invention of Mr. B. Dupuy of South Middletown. We shall procure an engraving of this machine, and give a more full description of its construction and utility.

Improved Mail Bags.

We have been shown a newly invented mail bag manufactured out of India-rubber, which, from its many excellent qualities will probably supersede those now in use. The bag is so arranged that when closed it is perfectly air tight, and of course, water-proof. When filled with letters or any mailing matter, sufficient air introduces itself to render the whole extremely buoyant; and thus in case of accident, such as the sinking of a vessel, the mail bags would always rise to the surface of the water and their contents be kept perfectly dry. They are manufactured by Messrs. Rider and Brother, at Harlem, and can be afforded at about the same cost as the leather ones.

Safety Apparatus for Steam Boilers.

We have received from Mr. T. Blodget, of Akron, Ohio, a very neat drawing with description of an arrangement of pipes and valves calculated to afford perfect security against the explosion of steam engine boilers, while by a self-adjusting principle the boiler is kept supplied with the requisite quantity of water.—We cannot give a full description in a manner to be understood, without the aid of an engraving, which we are not fully authorised to procure at present.

New Carding Machine.

Mr. Charles Bishop, of Newtown, Conn., has invented a Carding Machine, which is constructed on a new and improved principle, and will cost less than half that of the old or common machine.

This machine operates on the principle of the hand card, simply combing and straightening the fibre, without cutting and breaking it, as is done by other methods, the machinery is perfectly simple and the cards, arranged on belts running in connection with each other, and of which any number may be used. These belts run over two cylinders, one of which revolves with more speed than the other, two card belts are all that is required, and by adding workers and strippers, Mr. B. can card fine wools for broadcloths or any other goods when a fine face finish is more particularly desired.

Magic Table.

Mr P. M. Droyer of this city has invented a very ingeniously constructed piece of furniture which will unquestionably be brought into general use, for its manifold excellent qualities. It is called "The Magic or Transformation Table," and can be changed, in a moment, from a table into a bedstead, settee, sofa, a musical instrument, and a settee and table stand in one. The construction is not liable to get out of order, and all the objectionable features of the settee and sofa bedsteads now in use, are obviated.

Hoe's Fast Press.

We have now got fairly at work, running off the immense nightly edition of the Ledger upon the newly invented Cylindrical Rotary Printing Machine which a few days since we announced to our readers as having been manufactured for the Ledger, by the Messrs. R. Hoe & Co., Patentees and Printing Press Manufacturers, of New York. We doubt not that subscribers to the paper will be interested with a brief description of the machine, and of its invention, particularly as the principle of its operation is so entirely different from that of any printing press ever before put into successful use in this country, or in the world, that it has been with printers a disputed point, not only whether any machine could be invented by the most ingenious mechanic, capable of applying this principle to printing, but, even if there could be, whether the principle itself could be adapted to letter press printing. We think this last general invention, of which the first and only machine illustrating it yet manufactured, is that upon which the Ledger is now printed, proves the truth of the hypothesis, that the principle is susceptible of being applied, and with success.

The only limit to the circulation of the Ledger, as of two or three other newspapers in other cities, has been, for many months, the impossibility of accomplishing the work required of them in season for delivery in the morning, and for two or three years past the attention of some of the most ingenious mechanics of the country has been bent upon producing a machine that would print with still greater rapidity.

The one we have has been in course of construction for us months past, and is the first and only one yet built, commenced or ordered, except by ourselves. The manufacturers already have our order for a second one of the same kind.

The essential principle of difference between this last invention and all other kinds of presses or machines hitherto used, consists in the fact that while upon those the types are locked up with "quoins" and a "mallet and shooting stick," in a "chase," and laid upon a "bed" of iron, the surface of which is flat, with this one the types are screwed up with a wrench, in what our compositors are pleased to denominate a "turtle," constituting both bed and chase, and placed upon a large cylinder, four and a half feet in diameter, more or less, which revolves upon its own axle within four other smaller cylinders, one fourth part the size of the larger one, these revolving also upon their own axles in an opposite direction.

Each one of these smaller cylinders receive from its supplying attendant the sheet of paper with which, at every fourth revolution, it meets the form or "turtle" of type as it comes around, and in passing, gives the impression, and instantly throws it out into the receiver's hands, above of below, according to the relative position of the cylinder.

Surrounding the large inner cylinder, to which the form of type is attached, and between those giving the impression, are placed the inking rollers, which spread the ink upon the face of the types as it revolves under them. There are two of these to each cylinder. The inking fountain is placed entirely underneath the machine, from which the ink is constantly drawn by means of a continually revolving small iron cylinder, forming itself a part of the fountain. From this the ink is taken up by means of small rollers, with a small vibrating distributor working in connection with them, and is conveyed to the surface of the large cylinder, the entire circumference of which, except that section of it occupied by the form of type, performs in its revolution the office of both distributor and feeder to the eight inking rollers, from which latter the type receive their supply direct.

With two of the cylinders the white paper is fed in above, and the printed sheets are thrown out below, and with the other two it is fed in below and thrown out above. The room taken up by the machine, paper-boards and all included, is about sixteen feet in length, and nine feet high by about five feet in breadth.—The type used upon it are the ordinary type hitherto used on the Ledger, which are made to assume a circular form in the "make up" by the use of bevelled column rules

For the attendance of this press ten persons are required, viz, a superintendent and an assistant, and four to feed sheets in, and four to receive them as they come out. This is the same number only that have been required to attend the two presses heretofore used in printing the Ledger.

We have now given, in brief, a description of this most important invention, by which we doubt not, that printers, at least, if not mechanics generally, can derive a correct idea of its plan, without the aid of a diagram.

All mechanics know that strictly rotary motion is the motion capable of the highest rate of speed in machinery. Hoe's Last Fast Press is constructed throughout entirely upon the rotary principle of motion. So still indeed does the machine move, that it can hardly be heard in an adjoining room.

One of its greatest beauties as well as advantages in the estimation of all true mechanics, is its great simplicity, being far less complicathan any previously used machine press.

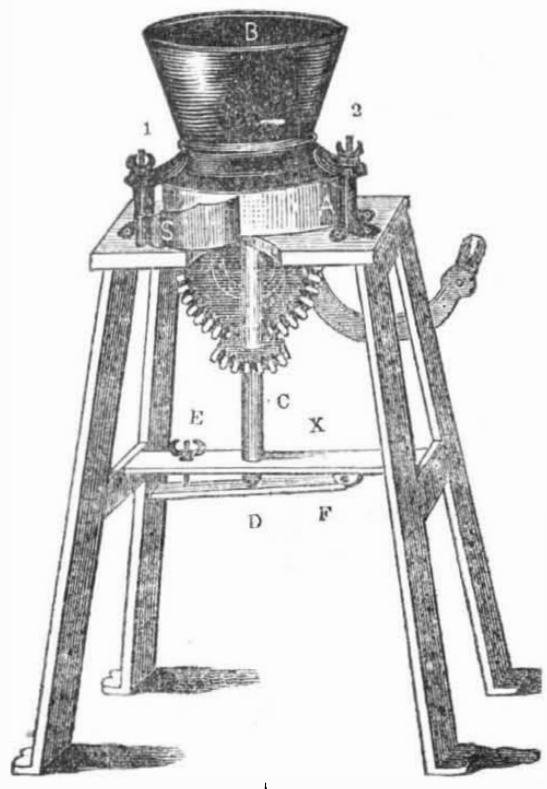
The extensive manufacturing house of the Messrs. Hoe, to whom the printers of the United States are indebted for most of the printing presses and machinery in use in this country, and particularly for the rapid machine presses, was commenced by Robert Hoe in 1808, who died in 1832, and left his sons, and Mathew Smith, who had been bred practically to the business, as his successors. Messrs. R. Hoe & Co. have now in New York two very extensive establishments, one in Gold st. and the other in Broome street, in the upper part of the city, taking in the whole block bounded by Sheriff, Broome and Columbia sts. They have attached to their works an iron and brass foundry, forge shop and trip hammers. The whole machinery, foundry, &., are driven by a single steam engine of a capacity to extend its power and work the entire length of the block, in which are employed between two and three hundred hands.—*Phil. Ledger*

Modern Versus Ancient.

In that admiration of the ancient, which it has been the usual effect of education to inculcate, we doubt whether the modern gets its full share of credit. What, amid the Hanging Gardens of Babylon, the villas of the Romans, or the luxury of the Egyptians could compete, for instance, with the Duke of Devonshire's Conservatory? This monster establishment is a glass structure which covers an acre of ground—it is seventy feet high—and the carriage road is continued directly through it, so that the Duke and his guests can drive thro' with a coach and four! The whole building is heated by hot water, the pipe to convey which measure miles. The temperature of various climates is imitated, and the collection of trees and plants embraces all that is fairest and loveliest in the vegetable world.—Here there is a whole avenue of bananas and plaintains lining one of the grand walks, and among them the *Musa Caveneisoii*, full of flowers, and laden with heavy masses of fruit. There, in an appropriate climate, is a charming grove of oranges and lemons. An *aquarium*, or pond of water, is the site for all the rare and curious water lilies, and other aquatic plants of the tropics. And near by is a wild mass of rock-work, of Derbyshire spar—looking like a rich bank by a forest stream where rare exotic ferns, lichens and air plants enjoy themselves as near as possible to their natural homes. Over this hill of rock-work is conducted a flight of steps; this leads you to a light gallery carried quite around the conservatory, whence, as you may imagine, the eye of the spectator revels in the strangeness and novelty of the masses of oriental vegetation, not plants half starved and dwarfed in pots, but trees nearly full grown, and luxuriant with their roots in the warm soil—palms, dates, and bananas, developing almost all their native grandeur and oriental wildness!

Willis says, "We love women a little for what we do know of them, and a great deal more for what we do not."

Wm. Hanley & Co.'s Improved Waterville Paint Mill.



(The following description has been furnished by the inventors or their agent.)

EXPLANATION.—A the runner ; B the hopper ; C upright shaft ; D cup for oil ; E thumb screw ; F the regulator ; S scraper ; X cross bar ; 1 and 2, screws by which the hopper is secured upon the runner.

The Waterville Mill has long been known as the best paint mill in use, yet an inspection of the above engraving will show that a very great improvement has been made on it by Messrs. Hanley & Co., of Waterville ; the frame of their mill being entirely of iron and having a regulator of such easy management that color can be ground by it to any degree of fineness and the means of supplying oil to the upright shaft by a cup, as seen at D, greatly reducing the labor and friction. The increased demand enables Messrs. H. & Co. to offer their improved mills at greatly reduced prices. One of these mills may be seen at the the office of the Scientific American. The Agency for this city is at No. 500 Broome street.

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NEW YORK, MAY 1, 1847.

India Rubber.

Until very lately it was found impossible to prevent the preparation from melting in summer. Whole warehouses full of India rubber shoes, clothing, &c., have melted into a mass of muck, to the great detriment of the pockets of those who had invested their thousands in the stock of India rubber manufactories.—Mr. S. Goodyear, after patiently devoting seven years to making experiments, has at length discovered the art of divesting the gum of its solubility, and so preparing it as to render it incapable of stiffening in the cold, or becoming more pliable, except at a very high degree of heat, which were its former characteristics, interfering with its general use for very many purposes to which it is now being applied. It is really astonishing to behold the various uses to which, under his superintendence, it has of late years been applied with complete success. For instance, many of the New York and Liverpool line ships now have sails made of it, which are being preferred to the best Russia duck, as they are not only more pliable and durable, but shed ice like glass.—The War Department are purchasing hundreds of thousands of dollars worth annually for the use of the army in Mexico, in the way of provision bags, ponton boats, knapsacks, tents, haversacks, water sacks, cartouche boxes, ammunition covers, &c. The shoes, suspenders, mattresses, &c., made of the preparation, as you know, are extensively used all over the country. Maps and seamen's charts—aye, and bank notes—are printed on it at the North—Harness, trunks, carpet-bags, floor-cloths, conducting-pipes, table and piano covers, &c., of this fabric are coming extensively into use—In fact, it would puzzle one to go into one of their establishments and see the thousands of articles now made of it for which iron, leather, wood, and linen, cotton, silk, and woolen cloths were formerly wholly employed. The housewives of New England are beginning even to use it for culinary purposes, instead of tin ware and pot metal. For covering furniture it is fast driving both hair-cloth and velvet out of use, and really makes more elegant and durable parlor furniture than any other we have ever seen. A little map of the State of Connecticut has been printed on the preparation, which is a kind of felt composed of raw cotton and the gum mixture made into sheets somewhat after the fashion in which hatters prepare the bodies of hats. It is made so thin as to be very little heavier than the common silk for dresses, and, as thus prepared, is now used for covering umbrellas, &c. There are nearly fifty factories at work on it already, and in time it is destined to be one of our most valuable branches of manufacturing industry.

The Famine Fast.

A national fast for one day, or one dinner hour, has been observed by appointment thro'out Great Britain, on account of the prevailing famine. There appears something strikingly peculiar in this appointment which leads one to enquire who, or what class were supposed to fast on this occasion. The starving people could not keep the fast voluntarily, because they had no food from which to abstain, and it can hardly be supposed that the rich, who have the means of relieving and removing the distress, would sincerely fast for the affliction which they have the power but not the will to remove. The few of the middle class who have a subsistence for themselves but none to spare, are the only persons who could fast on the occasion with propriety.

Mechanic's Institutions.

It is calculated that the 400 mechanic's institutions of Great Britain, comprise 80,000 members, possess about 400,000 volumes of books, raise about £30,000 a year, and occasion the delivery of nearly 40,000 lectures.

Upwards of 40,000,000 lbs. of sugar were made in the United States in 1846.

Marine Camels.

We on Monday witnessed an experiment made at the U. S. Receiving ship Ontario, of the power of the Marine Camels, the invention of Capt. Taylor. The Camels are simply Indian rubber canvass bags, made so as to retain all the air which may be pumped into them. They are placed under any vessel which it may be desired to raise out of the water, and in proportion to the amount of air forced into them, the ship will raise. The sloop of war, under which the camels had been placed, was raised three feet in less than one hour and a half, the camels, if we may use the expression, being fed by a small air pump worked by but one set of hands. It was evident, from what was done, that she might have been raised, with sufficient power, we may say, almost out of the water. The design of this invention is to carry ships over bars: or to relieve vessels which may ground on a bar. While this operation was going on, Mr. Wood, one of Capt. Taylor's assistants, gave the spectators a specimen of his ability to walk under the water. Encased in his sub-marine clothing, he descended to the bottom of the basin and took a short excursion, remaining some fifteen minutes below. The experiments were interesting and satisfactory.—*Baltimore Sun.*

The Centre of the Universe.

Dr. Mæder, of the Dorpat Observatory, in Russia, announces the discovery of the grand central star, or sun around which our sun, with all its planets, and the other suns with theirs, if they have any revolve. It is the star Alcyone, one of the Pleiades. It has long been known to astronomers that the fixed stars have a proper motion. Guided by the observations of the elder Herschell, as to the figure of that stratum of stars to which our sun belongs, Dr. M. has been led to look for a star which would fulfil the conditions required by the observed motions as centre, and has satisfied himself that the star Alcyone fulfils the conditions better than any other. According to the doctor's rough approximation, the distance of the great centre is thirty four million times that of the sun, and the time of the sun's revolution is 18,200,000 years. Light travelling at the rate of twelve millions of miles per minute would be five hundred and thirty years coming from the great centre.

The New Comet.

The Comet of March 4, is fast approaching its perihelion; the train is hardly perceptible to the naked eye, although it is six millions of miles in length, and is increasing at the rate of half a million of miles a day. The appearance of the Comet, when seen through a telescope of sufficient light, is very interesting from its rapid increase in size and brightness, and frequent changes of form. The distance from the earth is now about eighty millions of miles. It will pass its perihelion on the 30th inst., at which time its distance from the sun will be less than a twentieth part of the earth's mean distance, and it will then be moving at the rate of eleven millions of miles daily. It will remain south of the eliptic only two days, and in passing its nodes, will be near the line joining the earth and the sun.

Scientific Prophecy.

Newton expresses his deliberate opinion that cohesion, light, heat, electricity, and the communication of the brain with the muscles, are all to be referred to one & the same cause—an ether or spiritus, which prevades all bodies. We might smile at such an opinion from many quarters; and had Newton been only the author of the "Principia," we might, perhaps, think his head a little exalted by the excitement attending the close of an arduous labor, (though, in truth, the scholium, from which the above is extracted, does not appear in the first edition;) but when we consider his prediction, that the diamond would be found to be combustible, that the earth has between five and six times its weight of water, and others, which have turned out correct, we feel somewhat like a presentiment that the opinions just cited, may in some degree, share the same destiny.—*Dublin Review.*

Gold Pens.

Three or four different dealers, each advertise to sell gold pens *cheaper* than any other in the city.

The Telescope and Microscope.

While the telescope enables us to see a system in every star, the microscope unfolds to us a world in every atom. The one instructs us that this mighty globe, with the whole burthen of its people and its countries, is but a grain of sand in the vast field of immensity—the other, that every atom may harbor the tribes and families of a busy population. The one shows us the insignificance of the world we inhabit—the other redeems it from all its insignificance, for it tells us that in the leaves of every forest, in the flowers of every garden, in the waters of every rivulet, there are worlds teeming with life, and numberless as the stars of the firmament The one suggests to us that above and beyond all that is visible to man, there may be regions of creation which sweep immeasurably along, and carry the impress of the Almighty's hand to the remotest scenes of the universe—the other, that within and beneath all that minuteness which the aided eye of man is able to explore, there may be a world of invisible beings; and that, could he draw aside the mysterious veil which shrouds it from our senses, we might behold a theatre of as many wonders as astronomy can unfold—a universe within the compass of a point, so small, as to elude all the powers of the microscope, but where the Almighty Ruler of all things finds room for the exercise of his attributes, where he can raise another mechanism of worlds, and fill and animate them all with the evidences of his glory.—*Dr. Chalmers.*

Age of Plants.

Some plants, such as the minute funguses, termed mould, only live a few hours, or at least a few days. Mosses for the most part live only one season, as do the garden plants called annuals, which die of old age as soon as they ripen their seeds. Some again, as the foxglove and the hollyhock, live for two years, occasionally prolonged to three, if their flowering be prevented. Trees again, planted in a suitable soil and situation, live for centuries. Thus the olive tree may live three hundred years, the oak double that number; the chesnut is said to have lasted for nine hundred and fifty years; the dragon's blood tree of Teneriffe may be two thousand years old; and Adamson mentions banians six thousand years old. When the wood of the interior ceases to afford room, by the closeness of its texture, for the passage of sap or pulp, or for the formation of new vessels, it dies, and by all its moisture passing off into the younger wood, the fibres shrink, and are ultimately reduced to dust. The centre of the tree thus becomes dead, while the outer portion continues to live, and in this way trees may exist for many years before they perish.—*Magazine of Botany.*

How to reach the North Pole.

Sir J. Ross has written to the Astronomical Society, informing that body that he has submitted a plan to the Admiralty for carrying into execution the double and desirable objects of measuring an arc of the meridian, and reaching the North Pole. His plan is to winter at Spitzbergen, and employ his officers and crew under the direction of the son of the celebrated Schumacher, whom he has engaged for the purpose, and at the proper season, attempt to reach the North Pole on sledges drawn by Swedish horses, being a modification of the plan proposed by Dr. Scoresby.

Coal Hunting.

Peter McKeever of Albany has memorialized the Legislature, setting forth that large beds of Anthracite coal are to be found near Albany and Greenbush. The Assembly committee to whom the petition was referred, have reported a bill "For the encouragement of the discovery of Coal in the counties of Albany and Rensselaer."

The Gallant Mississippians.

We have already published a list of the killed and wounded at Buena Vista in the 1st Mississippi Rifles. The adjutant of the regiment has published a full statement, showing the whole number of the regiment engaged in the battle to have been 341. Of these forty-two were killed and fifty-one wounded. Ninety-three out of three hundred and forty-one killed or wounded! Here is gallantry to be remembered and cherished. The colors of this regiment should be blazoned with the names of Monterey and Buena Vista.—*N. O. Pic.*

The Spirit of Progress.

The spirit of Progress, or Reform, or both, that is abroad in our world, is destined to work out the temporal salvation of the working classes from the evils that have for centuries weighed, so heavily, so unequally, so crushingly upon them and all connected with them.—This is to be a part and parcel of the great work which is to be worked out by the good spirit that is pervading the minds of millions of our race at this day, and that is finding tongue and assuming a decided tone from the writings of gifted minds and through the columns of liberal Journals. The world is waking up to the actual condition of the most important and useful classes—the real "bone and sinew" of mankind—and mighty energies are being directed towards the accomplishment of reforms in Public Opinion *first*, and reforms in Social Condition *afterwards*, that shall carve out a new destiny and secure hitherto untasted blessings to the Sons and Daughters of Toil.

Enormous evils have existed for many long and wary, sad and dreary centuries of the history of man's oppression of his fellow man, under this unequal operation of arbitrary and unjust laws and artificial social relations. These evils are now old and hoary headed—brown and hardened in the storms of time and the wear and tear of ages that they have lived through and out-lived, but the great LEVER is being applied at the weakened base of the vast superstructure upon which they have rested so long and so securely, and iron-muscled arms are operating with giant strength upon the tottering monument of Monstrous Wrongs.—*And it must fall! It cannot stand!* Old times and systems are passing away. All things are becoming new. There is a better time coming than has ever yet been witnessed. It is coming rapidly too. It will dawn ere long. And in the first rays of the glorious up-rising sun of that day of Hope—when first its burning glories gleam upon the tops of the mountains—there will go forth such a shout of Jubilee as was never before heard on earth.—*Mechanic's Advocate.*

Capital Punishment.

The Key West Gazette. speaking of the insecurity of the prison on that Island, relates the following strange story:

Some years ago, a seaman by the name of Sherwood, accidentally shot a ship mate on a fourth of July, and was placed in this jail to await his trial The main door had no lock or bolt, and Sherwood roamed about when he pleased, but made it a point of honor to keep in the prison. His friends vainly urged him to go off; and the jailor finally getting tired of being bored, swore that he would have to go, for he could not feed him any longer, as he did not believe him guilty. Sherwood begged hard to remain, and promised to work for the jailor to pay his board. Upon these terms he was suffered to remain in prison, working daily for his keeper until his trial came on, and he was finally hung. Here was an honest Key West criminal; he did not deem himself guilty, but was perfectly willing to be hung, if the community desired it. He was hung; and as no other one has ever applied for capital punishment here since, none has been inflicted.

Whenever you buy or sell, let or hire, make a clean bargain, and never trust to "we shan't disagree about trifles"

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Those subscribing to the Scientific American will be furnished, if desired, with all the back numbers of the present volume. Bound together at the end of the year, they will form a handsome and valuable work.

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History of Architecture.

(*Continued from No.* 31.)

Now originated the many curved and twisted ornaments, the high pedestal under the columns, the numerous bas-reliefs on the exterior of buildings, the fluting of the columns, the reduction of the same according to a curved line, the coupled columns, the reduced pilasters behind the columns, the small columns between larger ones, the round and cut pediments, and the concave friezes. Thus the art was practised from the time of Vespasian to the reign of Antonines. Works were produced in this period, which may still be considered as master pieces, but which want the great and noble style of the Greeks. In the provinces, taste became still more corrupt. Architecture declined continually after the Antonines; more ornaments were continually added, which is proved particularly by the *arch of the goldsmiths*, so called, in Rome.—Alexander Severus, indeed, himself a connoisseur, did something for its improvement, but it rapidly declined under his successors. The buildings of this time are either overcharged with mean and trifling ornaments, as those of Palmyra, erected about 260 A. D., or they border on the rude, like those of Rome, erected under Constantine. Little was done under the following emperors, for the embellishment of the cities, on account of the continually disturbed state of the empire. Justinian, however, built much His principal edifice was the church of St. Sophia at Constantinople.—The beautiful works of ancient architecture were almost entirely destroyed by the Goths, Vandals and other barbarians, in Italy, Spain, Greece, Asia and Africa; and whatever escaped destruction remained in neglect. Theodoric, king of the Ostrogoths, a friend of the arts, endeavored to preserve and restore the ancient buildings, and even erected several new ones, the ruins of which are still to be seen in Ravenna and Verona. We may consider this period as the era of the origin of the modern art. We see a new style taking place of the ancient classical architecture, and eventually extending as far as the conquests of the Goths, through Italy, France, Spain, Portugal, a part of Germany, and even to England, whither, however, the Goths did not penetrate.—Whether this modern architecture, which is called *Gothic*, originated from the Germans, is not decided. We find, in the buildings erected under Theodoric, nothing attempted but simplicity, strength and the display of national taste in their exterior (the interior is unknown to us). But the buildings erected during the Lombard dominion in Italy (from 568) and all the monastic architecture of that time, have been erroneously called Gothic. Since the error was perceived, it has been distinguished, by the name of the old Gothic, from the proper Gothic, which is called modern Gothic. The Lombards entertained no respect for antiquities, and neither spared nor preserved them. Whatever they built was tasteless and faulty. On the exterior of their churches they placed small semicircular columns; and small pillars in a row along the cornice of the pediments; in the interior, coarse pillars united by semicircular arche the small windows and doors were finished with semicircles; the colums, capitals and arches were often overlaid with incongruous sculpture; the roofs of the naves covered with beams and boards, which were afterwards changed into arches, and on this account, often required arched buttresses on the outside. This Lombard style in architecture clearly proves the decline of science and art. It was employed in the 7th century, in Pavia, the chief city of the Lombard kingdom, in the erection of the churches of St. John and St. Michael: at Parma, in the church of St. John; at Bergamo, in the church of St. Julia; in the chapel of Altenotteng, in Bavaria; in the castle of Nuremburg; in the Scottish church at Ratisbon, &c.

(*To be Continued.*)

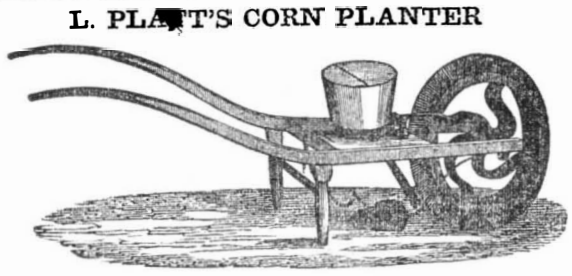
Derby and its Manufactures.

The town of Derby, Ct., like most of the New England towns, especially where there is an available water power, has several flourishing villages, which seem to vie with each other, not only in the excellence of the article made, and the manner of making it, but also in the construction and neatness both of their streets and dwellings Birmingham at the junction of the Naugatuc and Housatonic Rivers, is the most considerable village in the town, and may properly be styled the *Birmingham* of Connecticut. Here the rolling mills of Messrs. Phelps, Dodge & Co., turns off, on the average, fifty tons of sheet copper and bolts per month, and some months coming up to eighty tons. At the Pin Factory about one ton of pins per week are now manufactured, which is not half the amount which may be done when in full operation. This establishment is manufacturing its own wire, and the business is under the supervision of Dr. Howe, who was the inventor of the machines now used by the company, some of which have been in operation for eight years, and still do the best of work with very little attention. These machines take the wire from the reel and deliver the pins completely finished, at the rate of from forty five, to sixty, or seventy-five per minute, according to the speed of the machine. Not far from this factory, Messrs. Hawkins & Atwater have erected a spacious building 210 feet in length, by 60 wide, with a wing 70 by 60 feet for the purpose of extending their Spring and Axle business, and enabling them to supply the increasing demand for their article. They are fitting up a rolling mill in this establishment and will manufacture their own iron and steel, giving employment in all, to one hundred and fifty men. Here is also Mr. Plumb's Woolen Factory with two sets of machinery that consumes over 50,000 pounds of wool per year, making broadcloths of a superior quality, as you may judge from the award of the American Institute last fall. And further, in this model city there is the Foundry and Machine Shop of Messrs Colburn & Brothers; the large Planing, Sash and Blind establishment of Messrs. Hotchkiss, Clark & Co., a Flouring Mill; Shoe Nail Factory; Button, Hook and Eye, and Cutlery establishments, &c., &c About one mile up the Naugatuck is another village, just sprung up with a new Cotton Factory, belonging to the Colburn Manufacturing Co., and a new mill for rolling brass and copper, belonging to a joint stock company, and the Sash and Blind establishment of Messrs. Coe & Beach, all of which promise well for the enterprising proprietors Still further on, about 3 miles from the latter place, is another manufacturing village called Humphreyville, which has a large Cotton Factory, a Paper Mill, an establishment for the manufacture of Augurs, Bitts, Plane irons, and several smaller establishments for various purposes.

Good for the Blood.

On the banks of the river Parana the quantity of sarsaparilla growing is so immense that the waters, even below the Bosada, have become so strongly impregnated that invalids go to drink of the decoction.

L. PLATT'S CORN PLANTER



We have been furnished with a cut of this machine, and a variety of recommendations from those who have tested its utility, (though we have not examined it ourselves, nor do we know at present, to whom we are indebted for the notices,) but suppose they may be found at the principal agricultural warehouses.

The editor of the Southern Planter, in a notice of the machine, says: "It is simple in its construction and unerring in its operation. Suppose the ground to be prepared for the seed, the wedge-like projection on the face of the wheel makes a furrow of the proper depth, into which the seed are dropped through a small tube leading to it. On the side edge of the wheel are pin holes into which pins may be screwed at pleasure; in the revolution of the wheel these pins strike and raise the projecting end of the lever, by which a slide connected with the other end of the lever moving through the bottom of the hopper, is drawn forward. In this slide there is an opening into which the seed falls, and this movement of the lever draws this opening forward over the upper end of the tube through which the seed falls into the furrow. After the pin has passed round and let the lever fall, the slide is drawn back into its original position by a spring at the other end, and is again ready for another operation. The hole in the bottom of the hopper can be altered, at pleasure, to pass different sized seeds, or different quantities of the same seed, and the position of the pins can be varied according to the distance required between the droppings; an apparatus is fixed which secures a regular and even covering of the seed. "The machine is rolled forward by hand, and the furrowing, dropping, and covering, are all accomplished by the machine, saving thereby the use (where the ground is checked) of two horses, two plows and two hands, doing the work with much more regularity than it can possibly be accomplished by the most skilful dropper.

Importance of Improving Time.

But few seem to be fully aware of the importance of improving time. Yet there are those, among the most considerate, who know how to appreciate the true value of time—They evince this in their efforts to do good, and to promote usefulness in the world. Indeed, the conduct of all tends to convince every one of the necessity of improving time, could they fully realize how soon their days on earth would be numbered. This idea is often overlooked. This is perhaps one prominent reason why so many permit hours, days and even weeks to run to waste. If man were created for no other purpose than to spend his time in idleness, it would not be so strange to see people manifesting so little concern about improving the passing moments. But as God has enjoined it upon man to improve the talents committed to his trust, it is astonishing to see multitudes living as though no such duty was imposed upon them. Time should be improved to the best advantage, or but little will be accomplished. Time *must* be improved, or the cause of truth will suffer a great loss. In short any who neglect making efforts to promote, advance and extend the cause of truth, in literary attainments or otherwise, is guilty of a moral wrong, and may expect to make but little advancement toward happiness in this world, and perhaps for this neglect, may look back with regret in a dying hour, upon the misimprovement of their time, and die degraded as they lived: consequently, unprepared to make that advancement in a spiritual world, that they otherwise might have done. Therefore, what our hands findeth to do—let us do it with our might—*Gem of Science.*

Triumphs of Labor.

And who can adequately describe the triumphs of labor, urged by the potent spell of money? It has extorted the secrets of the universe, and trained its powers into myriad forms of use and beauty. From the bosom of the old creation, it has developed anew, the creation of industry and of art. It has been its task and its glory to overcome obstacles. Mountains have been levelled and valleys exalted before it. It has broken the rocky soil into fertile globes, it has crowned the hill-tops with fruit and verdure, and bound around the very feet of ocean ridges with golden morn. Up from the sunless and hoary deeps, up from the shapeless quarry, it drags its spotless marbles and rears its palaces of pomp. It tears the stubborn metals from the bowels of the earth, and makes them ductile to its will. It marches steadily on, over the swelling flood and thro the winds of ocean, tramples its hoarse surges, and mingles them with flakes of fire. Civilization follows in its path. It achieves grander victories, it weaves more durable trophies, it holds wider sway than the conqueror. His name becomes tainted, and his monuments crumble; but labor converts his red battle fields into gardens, and erects monuments significant of better things. It writes with the lightning. It sits crowned as a queen in a thousand cities, and sends up its roar of triumph from a million wheels. It glistens in the fabric of the loom, it rings and sparkles from the steely hammer, it glows in shapes of beauty, it speaks in words of power, it makes the sinewy arm strong with liberty, the poor man's heart rich with content, and crowns the sweaty brow with honor, dignity and peace—*Chapin.*

(The following quaint communication, is from the eccentric author of an ingenious mechanical invention, and combines a tolerable burlesque on a popular style of writing, with a rational allusion to the aristocratic bearing of modern legislation, and a specific item of intelligence. The article appears to be written with due regard to syntax, though it will require a tolerable grammarian to understand it.)

PALMYRA, April 18, 1847

Mr Editor.

I have lately been *shown* ("but not exactly within" the "range" of that lofty *mount*, or if you please "Tremont," whose tall-souled caterer is sending to his long list of heaven bound patrons, who cannot come to his groaning table of fat things, and his overflowing *font* or fountains of wine on the lees, for their daily meals, hebdomadal banquets of mince-*pi* and other nice pastry too numerous to mention,) a "hasty plate" of the very tallest kind of yankee "fixins;" or to come down, or if you please *go up*, from this *typical* kind of lingo to a language of universal understanding, a model or *pattern* of a novel, neat and useful invention, carrying upon its face a stamp of simplicity, and in its eye an assurance of utility so perfectly irresistible that our neighbor Van, on beholding it, was found in the plenitude of his amazement to exclaim "dunder and blixen, mine Got, why the tifel hav'nt I never thought of dat leetle, simple, useful ting pefore; what a great poopy I pe." The invention is, or will be, called "C——'s Horizon, Zenith and Pole Pointer, or the Land Surveyor's and Builder's Man of Many Trades,"—the grand embodimentation, conglomeration, and amalgamation of utility, durability and simplicity, constantly carrying in his comprehensive countenance, the modest assurance of the polarity of his lines or courses, the horizontality of his foundations, the verticality of his structures, &c., or should there be (purposely or casually) a wide departure or even one jot or tittle of deviation therefrom, the exact amount thereof may at once be seen in the significant *leer* of his intelligent eye. The "quaint" inventor of this invention informs me and wishes me to inform you and courteously invite you to inform your numerous and wide spread readers, that he has in rehearsal and intends to bring out as soon as he can raise the legal fee and requisite facilities, the beggarly farce of *begging and beseeching** the Commissioner of Patents to grant him the benefit of one of those protective mantles (thin and short though they are) which Congressional mantua makers [who seem to have regarded the protection from pillage by soulless, shameless, conscienceless, purse proud, pampered, arrogant, sacriligeous, and hardened thieves of the *almost* priceless proceeds or results of the high, intellectual, brain aching labor or vocation of the poor inventor, of far less account, than they have the protection of poor, hungry, ragged, houseless pilferers of the paltry pence, for which those brainless animals, who, for aught the Scriptures say to the contrary, (except perhaps in *one* instance) *only* know their "owner" and "master's crib" are made to tug as long as their drudgery is considered by these lordly owners, (who perhaps havn't much the start of them in the matter of brains) worth more than their hides and tallow,] have placed in his care, with instructions to throw around those new and useful inventions for which their respective inventors may have humbly and reverently prayed and paid for them.

Respectfully yours, EZRA CONANT.

*We are informed that our worthy Commissioner of Patents is not particularly partial to the formal mode of application, established by act of Congress.

The Niagara (Canada West) Mail speaks of a flock of pigeons which recently crossed the Niagara as being 120 miles long.

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TO CORRESPONDENTS.

"N. E. G. of Mississippi."—We do not fully understand your policy in communicating rewards to one person, for services rendered by another disconnected and disinterested party. We had nearly made a bargain for your invention, but were not instructed from you with regard to the prices or terms.

"J. P. of A.—N. Y."—We cannot discover from your remarks on the subject, what advantage your invention has over that in common use since the old plan is susceptible of large surface. It may therefore be well for you to give a more particular description.

"E. G. of Mass."—You will find your water wheel a difficult subject. There have been so many of very similar construction that patents for them are frequently refused. We could not possibly say what part is new, but we are certain that in some points it will interfere with other patents Can you furnish another drawing of your paint mill?

"O'B. of Maine."—The main subject of your's of the 19th, is one in which you will find it difficult to evade the claims of some one of the thirty odd persons who have invented on that subject. We approve of your taste and judgment in your proposed plans, and know not but they are both novel. To the other subject—that of supplying steam boilers, we have given much personal attention; and if you can show a plan ostensibly preferable to those hitherto employed, there will be no difficulty in finding ready patrons. Send a sketch and *brief* description if agreeable. We cannot see the practicability of your proposed application of tubular universal joints.

"J. A. of Pa."—We have shown by demonstration in a former number (the number being out of print, we will republish the article if required) that no fluid can, by re-action alone, in vacuo or atmospheric air, exert more than one half of its full natural power; and consequently, that Avery's rotary engine could not, in theory, furnish more than one half of the full power of the steam expended, while well constructed cylindrical engines will furnish 75 per cent of the full power, the balance being lost in friction.

"W. D. of Conn."—We are glad to discover competition in enterprise, and shall notice your facilities more particularly another time.

"J. W. S. of Mass."—Your having matured an invention in your own miud, or having described the same verbally to others, cannot constitute evidences of priority. If you had made a model you would probably have secured the right of invention.

"J. M. H," and "T. J. D. of Ohio," and "J. C. of Maryland," unavoidably deferred till next week.

"J. H. C. of Pa."—We shall answer by mail when we have examined the subjects and made the proper arrangements.

"J. B. of Norfolk, Va."—Your package of papers was sent by the J. W. Kimpton last Monday.

Another Great Fudge.

We find the following in one of the morning papers, and of course it will be caught up and travel from journal to journal for months—if not checked.

"Under the head of Revolution in Steam Propulsion, the Liverpool Times describes an invention recently perfected by Mr. Parkhurst, a gentleman of great mechanical ingenuity which in the opinion of the editor, must supersede the existing modes of steam propulsion and revolutionize the traffic by sea. This invention is described by the Times to be entirely original, and like most useful inventions, beautifully simple. The advantages are three fold—a greatly increased rate of speed, a vastly increased power of stowage, by the reduction of the present cumbrous machinery in the holds of steamers, and reduced expenditure in the cost of the engine-power. A number of submerged vertical propellers are to be fixed on each side of the vessel; these revolve in unison, and by the force with which they take hold of the water, and the power which this combined action gives them, must send forward the ship at a speed altogether unattainable by the present or any known system. It is asserted, by practical men, that a vessel so propelled would cross the Atlantic in nearly half the time of the best steamers now employed in ocean navigation, &c. &c."

There, now, is a fair specimen of English, wonder exciting humbug; and we boldly venture to predict, judging from the hints of description given, that this great invention, so highly commended by the best "practical men," will, after swelling American newspaper columns, and discouraging American inventions, take the turn of other greatly puffed inventions, and confirm the beaten-road capitalists in the opinion, that "no *new* invention will ever succeed."

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We would inform those who have been disappointed in procuring the whole of the first volume of the Scientific American, that we have recently come into possession of a few complete sets of the last half, (i e. from Nos. 26 to 52 inclusive) which we will dispose of at the subscription price, viz. $1 per set.

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☞ THIS paper circulates in every State in the Union, and is seen principally by mechanics and manufacturers. Hence it may be considered the best medium of advertising, for those who import or manufacture machinery, mechanics tools, or such wares and materials as are generally used by those classes. The few advertisements in this paper are regarded with much more attention than those in closely printed dailies.

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To Builders and Hardware Dealers.

☞ We would inform those who deal or have occasion to use DOOR LOCKS or LATCHES in the construction of buildings, that we have just received a large lot of Mortice and Latches, which we can furnish at a less price than the original cost to manufacture them. They are of a beautiful pattern and some of the Locks of an entirely new style. They may be had in any quantity, by application at this office. MUNN & CO. 128 Fulton st.

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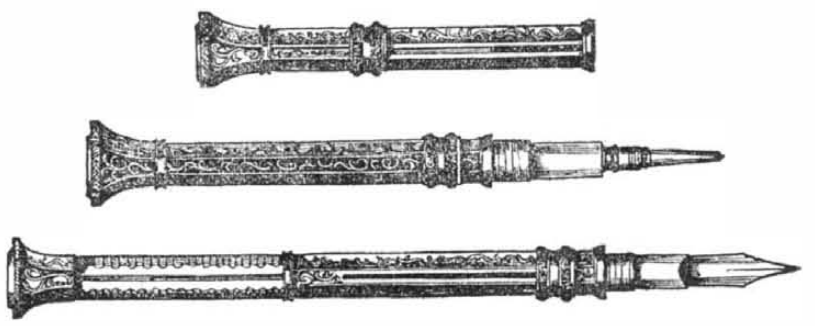

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In the short space of 2 3-4 inches is contained a Pen, Pencil, and a reserve of leads, and by one motion slides either the pen or the pencil out and extends the holder to six inches, which is but little more than half the length, when shut up, of the common pen holder, but when extended is one fourth longer. This article is secured by two patents, and the Manufacturers are now ready to receive orders for them in any quantity, either of Gold or Silver, together with his celebrated ever pointed Gold Pens, which need no proof of their superiority except the increased demand for the last six years, and the numerous attempts at imitation.

A. G. BAGLEY, No. 189 Broadway.
New York, Sept. 1, 1846. o24 tf

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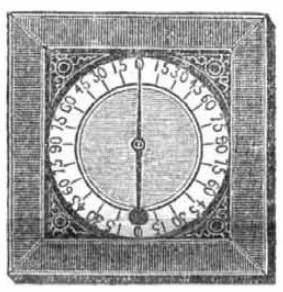
Plumb and Level Indicator.



THE UTILITY of this invention so far exceeds the expectation of the inventor that he has been induced to engage in the manufacture of them to a large extent. It is understood from the engraving, that the proper position of the instrument is vertical, and that the weight of the ball will keep the index in a perpendicular position, so that either the bottom or side of the frame being placed against a horizontal, vertical or oblique surface, the index will show its inclination, (if there be any) in degrees.

Besides its utility, the Indicator possesses a share of elegance, consisting of a neat mahogany frame 9 inches square and glass, encasing a lithographic dial with an appropriate picture in the centre, and the movement is so free that a variation of one fourth of a degree is indicated. They may be sent to any part of the U. S. by Express.

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Branwhite's Patent Color Discriminator.

☞ This ingenious invention consists of a neat box in which are arranged in a scientific manner, all the most brilliant colors, THIRTY FIVE IN NUMBER represented by as many convex discs of the FINEST SILK. Each disc bears a number referring to an explanatory scale. The attention of storekeepers, milliners, and indeed all who have occasion to vend or purchase colored articles of any kind, is respectfully invited to this new and valuable discovery. More trouble can be saved by its use in ONE DAY than four times the amount of its cost. For sale, whole sale and retail, at the office of the Scientific American 128 Fulton st., 3 doors from the Sun Office.

They may be sent by Express, to any part of the United States. oct31

Foster's Window Shades.

THE NEW (intended) PATENT FRICTION WINDOW SPRING, recently invented by G P. Foster of Taunton, Mass. is now ready and for sale as below. It consists of a spring attached to the sash made to bear upon the inside of the window frame, and thereby holds the sash in any position with equal strength of a oord and weight.

These convenient springs have been tested and are known to supersede every other spring yet invented, for convenience, while, for durability, they will last much longer than any kind now in use.

They may be seen at the hardware store of W. N. Seymour & Co. No. 4 Chatham Square, and may be had upon application to James Lancaster, Agent for this city, at the same place, who will give full instructions in adjusting them. a24 4t*

C. KNOX,

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☞ A large assortment of the Spring style now on hand. m27 1m*

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THOMAS DADE.

STATE OF NEW YORK, CITY OF NEW YORK, SS.—On the 16th day of February, A. D. 1847, appeared before me Doctor S. B. Smith, who being by me duly sworn, did depose and say that the following certificates and extracts from letters are each and every one of them true as received from the several persons whose names are thereunto attached, and that the same are a portion of the many testimonies of the cures by his Magnetic Machine.

Affirmed before me, this 16th day of Feb. 1847.

DAVID S. JACKSON,
Acting Mayor of the City of New York.

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Cured of Lock Jaw: A case under the care of A D. Bacon, M D., Amisquam, Mass.

Case of Scrofula and Palpitation of the Heart: Two of Dr. Smith's own children, the scars still to be seen.

Cured of Spinal Complaint and Weak Eyes; Cases attested to by H. Peck, New London, Huron County, Ohio.

Cured of Rheumatism: Several cases attested to by J. Miller, of New London, Ohio.

For further particulars relative to the wonderful cures performed by these wonderful machines, we would refer you to the inventor, who has original letters from those cured, that he would be pleased to show at his office.

Price $12, neatly put up in mahogany cases, with a book of explanation to accompany.

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THE subscriber will furnish to order his Improved Cotton Willow and Wool Picker. It is warranted to do more work and much better in quality, with less outlay of power than any other machine in use, also the repairs required are much less on the machine itself and the succeeding machinery, the cotton or wool being so perfectly opened there is much less strain upon the card, clothing, &c., &c. It has been introduced into more than 60 of the best Mills in New England and quite a number of them have stated to me that they save the expense of the machine in a few months in WASTE ALONE, when much stock is used. EDMUND BACON,

Superintendant of Portsmouth, N. H.
d12 6m* Steam Mills.

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ZENAS C. ROBBINS,
Mechanical Engineer and Agent for procuring Patents.

WILL prepare the necessary Drawings and Papers for applicants for Patents, and transact all other business in the line of his profession at the Patent Office. He can be consulted on all questions relating to the Patent Laws and decisions in the United States or Europe. Persons at a distance desirous of having examinations made at the Patent Office, prior to making application for a patent, may forward (post paid, enclosing a fee of five dollars) a clear statement of their case, when immediate attention will be given to it, and all the information that could be obtained by a visit of the applicant in person, promptly communicated. All letters on business must be post paid, and contain a suitable fee, where a written opinion is required.

Office on F street opposite Patent Office.

He has the honor of referring, by permission, to Hon. Edmund Burke, Com. of Patents; Hon. H. L Ellsworth, late do; H. Knowles, Machinist, Patent Office; Judge Cranch, Washington, D. C.; Hon. R. Choate, Mass., U. S. Senate; Hon. W. Allen, Ohio, do; Hon. J. B. Bowlin, M. C. Missouri, Hon. Willis Hall, New York; Hon. Robert Smith, M. C. Illinois; Hon. S. Breese, U. S. Senate; Hon. J. H. Relfe, M. C. Missouri; Capt. H. M. Shreve, Missouri. j23

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CURIOUS ARTS

The Art of Painting.

(*Continued from No.* 31.)

PLAIN PAINTING IN OIL COLORS.

The beauty of this kind of painting depends principally on the uniformity of its finish ; and this is effected by distributing the paint equally on every part of the work, and finishing by drawing the brush lightly and steadily over the work, in the direction of the grain of the wood. Care is required to avoid leaving a superfluous quantity of paint in the quirks and corners ; all such accumulations must be brushed out. In painting houses outside, the workman should be particularly careful to paint the edges of the clapboards and all the hollow corners ; and for this purpose, the brush must be held with the handle inclining downward, that the brush part may work upward, filling the edges and corners. Paint, for inside work, usually requires an ingredient more drying than raw linseed oil ; and for this purpose, an article called litharge, being finely ground, is added to the paint, in the proportion of one ounce to each pound of paint ; more or less according to circumstances. This litharge is evidently the best dryer for floor paint that is known ; paints tempered with this, dry harder, and wear better, than any other : but painters have in general use a fluid article, called *drying japan*, which is very convenient as a dryer, and is excellent for carriage and ornamental work, but is in more general use than it should be in house painting. This japan consists of oil, gum shellac, litharge and red lead, united by being boiled together. Red lead is, of itself, a good dryer, in such colors as are not injured by its use ; but when a delicate white is required, a sulphate of zinc, known as *white vitriol*, must be used. It is a general custom with painters, however, to prepare a drying oil, by boiling it, that it may the more readily dry, even without any other dryer. The usual mode of boiling the oil, is to place several gallons in an iron kettle over a slow fire, and when it begins to boil, add four ounces of litharge and an equal quantity of red lead, to each gallon of oil : the oil is continued boiling, being almost constantly stirred with a stick, for about half an hour, or until it boils clear without frothing ; it is then taken off to cool. This oil can be always procured ready boiled at the paint shops ; but paints mixed with this, will not prove so durable when exposed to the weather or to wear, as those ground in raw oil, and having good opportunity to dry. Raw oil, with litharge for a dryer, is best for floors or other inside work, in warm, dry weather. In giving the work a second or third coat, however, it is requisite to mix spirits of turpentine with the oil, to prevent too sharp a gloss, and render the paint more firm and hard. The paint is first mixed with oil and the spirits of turpentine is added, in the proportion of a pint to two quarts of oil ; the proportion varying, however, according to circumstances. If the paint is required to be left *flat*, or without any gloss, the spirits may be used in the proportion of one half, or even two to one : but such paint will not wear so well. Alcohol is sometimes used instead of spirits of turpentine ; but neither of these should be used in any considerable quantity on outside work in warm weather : in cold weather they are convenient to make the paint flow more freely. As a general rule, after the first coat of paint is dry, and when the second is to be applied, the work must be examined, and all the cracks, seams and holes filled up smoothly with putty, (a simple mixture of oil and Spanish whiting,) and all the rough parts smoothed with sand-paper or glass-paper ; and after smoothing, the dust must be carefully removed with a dry brush. A general, but improper custom, which prevails with most painters, is to apply the putty with the fingers merely, in filling the cavities of nails and brads ; but instead of this, the putty should always be smoothed with a chisel-shaped piece of wood. When any uneven part of the surface is to be smoothed, the putty should have a little white lead paint mixed with it, to make it adhere better. If an old room is to be painted, such parts of the surface as have been discolored with smoke, or have been exposed to wear, should be washed over with a dilute mixture of lime and water, and allowed to dry before the paint is applied : and such parts of a floor as have become bare, or from which the paint is worn off, should be first painted with very thin or dilute paint, and become dry before the whole is painted : as the same paint cannot be suitable for the painted and the unpainted parts. We shall now proceed to instructions in

PRODUCING AND COMPOUNDING COLORS.

White is considered as not only a principal color in painting, but the base or foundation of all light colored paints. White lead is the principal white in use, though a more delicate white called *flake white*, is used in ornamental work. Several common colors, known as lead color, slate color, &c., are produced by mixing lampblack with white lead in different proportions. A small quantity of Prussian blue, finely ground and added to white lead, constitutes the common *sky blue*. Minute quantities of blue and yellow added to white, produce the delicate *pearl color*, so much in vogue for parlors and halls Straw color is produced by the addition of a little chrome yellow to white : and pea green by the addition of Paris green. A beautiful light purple or peach blossom color is produced, by adding to white lead, small quantities of ultramarine blue, and drop lake. It is needless to specify the exact proportion of the ingredients in these compounds ; the only rule being to add the coloring ingredients in minute quantities till the required color is produced. The most common color for floors, is composed of white lead and yellow ochre, in about equal quantities by weight, with the addition of one ounce of red lead to each pound of the mixture. In painting carriages or ships, a great variety of compound colors are used, a few of which may be here noticed. The best black is composed of lampblack and Prussian blue A dark green consists of a mixture of chrome green and Prussian blue. A brilliant *plum color* is produced by a mixture of lampblack and vermillion. Olive color is produced by mixing lampblack and chrome yellow. A brilliant orange color is produced by mixing chrome yellow and orange lead—(a pigment similar to red lead, but more refined.) A stone brown is composed of lampblack, yellow ochre and Venetian red, equal parts : the addition of white to this compound reduces this color to a drab, or light stone color. A mixture of lamp black with Venetian red, constitute the *chocolate color*. A bright rose color, which is much used in ornamenting, is composed of white lead and drop lake. As a general rule, the colors should be mixed with oil and ground separately before being compounded, or mixed together ; but should not be diluted any more than is required for grinding, until the color is perfected. We shall proceed with some instruction in carriage painting in our next number.

(*To be continued.*)

Steam Superseded.

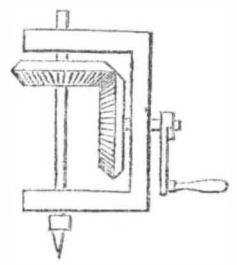
Sir John Rennie, in his able annual address says—"The steam engine itself, improved as it is, and wonderful as has been the results produced by it, is capable of further improvements. Its bulk and weight may be further diminished, both in the form and construction of the boiler as well as the engine itself, and thus in effect, its power may be increased ; or it may be reserved to us to discover the means of producing, and rendering subservient to our purposes, some other power which shall surpass steam, or, perhaps, to substitute for it that all-powerful agent, electricity, which Jacobi has already attempted to apply to navigation. Obscure and difficult as the subject may appear now, it may still be realized. Our indefatigable and enlightened honorary member, Faraday, has pointed out the way, and is still proceeding in his distinguished career with remarkable success, and we must not lose the opportunity of profiting by it ; in fact, by well directed and combined exertions, it is impossible to foresee the results which may yet be arrived at."

There is a district in Siberia, in which during the winter the sky is constantly serene, and where a flake of snow never falls.

MECHANICAL MOVEMENTS.

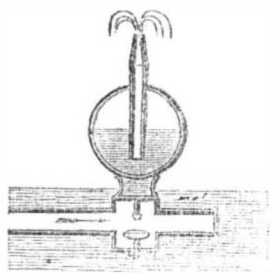
We have made arrangements for presenting, under this head, a series of illustrations of various principles of natural philosophy, connected with mechanical movements, without regard to classification We commence with a simple illustration of what is termed

Mitre Geer.



This cut represents the most common method of communicating motion to an axle (shaft arber or mandril) placed at right angles with the driving shaft whether vertical or horizontal. The term " mitre geer," is applied only to geer wheels, the teeth of which are arranged at an angle of 45 degrees with the axle ; and this kind is used only in cases where the velocity of the driving and the driven shafts are required to be equal, and the two wheels are of equal size. When two wheels of different sizes are used, the angle of the teeth of each wheel is required to vary from that of the other, and such wheels are known under the name of *bevelled geer*, or more briefly *bevel geer*. The bevel geer is used in all cases in which the two shafts are at right angles, or any other angle with each other, and especially if the motion of the driven shaft is to be accelerated, or is to move with increased force. In all cases of bevel geer, the angle of the face of the teeth (or rather of the *pitch line* or bearing point of the teeth) must be such as, being continued, would strike the axis at the point at which it is intersected by that of the other shaft. But of this we have given a full illustration in a former number

The Hydraulic Ram.



This cut illustrates the principle of Montgolfier's invention, generally known as the *Water Ram*. In this apparatus, a current of water must flow through the tube, in the direction of the arrow, and escape at the lower valve which is kept open by a weight or spring calculated according to the current ; so that when the current arrives at its speed, this valve is closed, and the momentum which the water has acquired, forces open the upper valve which leads to an air chamber above, where the portion of the water which has passed the valve is received, and thence conducted in any required direction. As soon as the water which passes through the upper valve has come to a state of equilibrium, the stream at the arrow is necessarily at rest, and the lower valve is again opened by the spring or weight at the same time that the valve leading to the air vessel is shut ; thus by the alternate action of the two valves a portion of the stream is used at every stroke, and carried to the reservoir above.

To Dye Silk a Brilliant Gold Color.

Take any quantity of nitro muriate of gold, and evaporate by exposing it to a gentle heat in a glass tumbler or phial ; the gold will form itself in crystals on the bottom and sides of the vessel ; collect these crystals and dissolve them in ten times their weight of pure water. Then put a gill of water into a common flask and add one ounce of graduated zinc, and one fourth of an ounce of sulphuric acid. Hydrogen gas will be evolved, and rise through the neck of the flask, which must not be stopped. Immerse a piece of white silk in the above mentioned aqueous solution of gold, and expose it, while wet, to the current of gas as it rises from the flask ; the gold will soon be revived and the silk will become beautifully and permanently gilt. Any letters or flowers may be drawn on the silk with a camel hair pencil dipped in the solution, and on being exposed to the action of the gas, will be revived and shine with metallic brilliancy. The silk must be kept moist with water till the gold is revived. Zinc may be prepared for the above purpose, by melting it and stirring it continually with a stick or iron rod while it is cooling ; or it may be pulverized with a hammer as soon as it becomes solid.

To Dye Silk a Brilliant Silver Color.

Proceed as directed in the last experiment, only use the nitrate of silver, instead of nitro muriate of gold. The process of crystalising, redissolving, &c., is the same. But the crystals of silver differ in color, being white, whereas those produced from gold are yellow. If a jar or box be filled with hydrogen gas, and the silk suspended in it, the action of the gas, and consequently the revivification of the metals will be more uniform. For small figures, however, it may be as well to fix a stopper in the flask, having a small orifice through it, that the gas may be thrown with some force on the silk and will have a more certain effect. A solution of muriate of tin may be managed in a similar manner, but none of these solutions can be thus revived on paper.

Illuminated Rats.

Catch a rat in a wire trap, keep him until night, then procure a preparation of phosphorus in oil, apply it all over the rat, except his head, and turn him loose into his hole. Such a scampering and getting out of the house as occurs, as his phosphorescent majesty pursues his alarmed friends who he is anxious to overtake, afford certainly a security against the return of the depredators for a long season.

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